

WHAT IS CLAIMED IS:

1. A data communication system comprising:

5 a plurality of terminals connected to a telephone line including a switched telephone network for use in a caller number identification and display service;

sender number detecting/informing means for connecting with said switched telephone network, and for detecting and subsequently informing a sender telephone number informed by said telephone line; and

10 a host computer for receiving said sender telephone number and connecting with said switched telephone network, and subsequently initiating a data communication with said plurality of terminals,

wherein said plurality of terminals each have their own ID codes to distinguish one of said terminal from others, and

wherein said host computer comprises

15 registration means for registering said ID codes and sender telephone numbers corresponding to said ID codes;

determination means for comparing said sender telephone number informed by said sender number detecting/informing means with said sender telephone numbers registered by said registration means, and for subsequently determining whether said sender telephone number is coincident with any of said registered sender telephone numbers; and

20 communication control means for controlling data communication process steps through said sender telephone number detecting/informing means based on a result obtained by a comparison with said determination means.

25 2. The data communication system according to claim 1, wherein said plurality of terminals each include at least addition means for affixing additional numbers to said sender telephone number to thereby form an instruction number that is utilized to instruct and make effective said sender telephone number, and for sending subsequently thus prepared number to said telephone line.

30 3. The data communication system according to claim 2, wherein said addition means includes switch means for performing selective switching operations according to a

determination whether said instruction number is affixed to said sender telephone number.

4. The data communication system according to claim 1, wherein said host computer includes means for implementing, if it is determined by said determination means that a sender telephone number informed by said sender number detecting/informing means is non-coincident with any of said sender telephone numbers registered by said registration means,
5 at least one of:

displaying a message on a process input display unit,

printing out said message on a sheet of paper with a printer,

sending said message to an external system, and

10 storing said message in storage means,

said message indicating that said sender telephone number informed by said sender number detecting/informing means is found non-coincident with any of said sender telephone numbers registered by said registration means.

15 5. The data communication system according to claim 1, wherein said host computer further includes:

means for instructing said communication control means;

means for attaining a line connection through said sender telephone number detecting/informing means, and subsequently initiating data communication with said plurality of terminals, if it is found by said determination means that a sender telephone number informed by said sender number detecting/informing means is coincident with one of said sender telephone numbers registered by said registration means; and
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means for rejecting said line connection by said sender telephone detecting/informing means, if it is determined by said determination means that a sender telephone number informed by said sender number detecting/informing means is non-coincident with any of said sender telephone phone numbers registered by said registration means.
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6. The data communication system according to claim 1, wherein said registration means in said host computer registers a plurality of sender telephone numbers corresponding to a single ID code.

7. The data communication system according to claim 1, wherein said determination means further determines that a request for line connection is from one of said terminals, for which said sender telephone number is already registered, if it is determined that a sender telephone number informed by said sender number detecting/informing means is coincident with any of said sender telephone numbers corresponding to said ID codes registered by said registration means.

8. The data communication system according to claim 1,
wherein said plurality of terminals each include means for transmitting said own ID codes prior to data communication, and

10 wherein said host computer further includes
means for instructing said communication control means, regardless a result of a determination by said determination means;
means for attaining a line connection, and for initiating subsequently a data communication with a terminal from which a request for said data communication is made; and
means for instructing said communication control means, if it is determined by said determination means that said sender telephone number informed by said sender number detecting/informing means is non-coincident with any of said sender telephone numbers registered by said registration means, to acquire an ID code transferred from said terminals, and to subsequently determine whether said ID code is coincident with any of said ID codes stored; to retain said line connection, if it is found said ID code is coincident with one of said ID codes stored; and to discontinue said line connection, if it is found said ID code is in non-coincident with any of said ID codes stored.

25 9. The data communication system according to claim 8, wherein said host computer further includes means for implementing, if it is determined by said determination means that said ID code informed by said sender telephone number detecting/informing means is non-coincident with any of said ID codes registered by said registration means, at least one of
displaying a message on a process input display unit,
printing out said message on a sheet of paper with a printer,
30 sending said message to an external system, and

storing said message in storage means,

said message indicating that an ID code informed by said sender telephone number detecting/informing means is found non-coincident with any of said ID codes registered by said registration means.

5 10. The data communication system according to claim 8, wherein said host computer further includes means for implementing at least one of

10 storing newly, if an ID code currently notified by said sender telephone number detecting/informing means is determined to be coincident with one of said ID codes previously registered in said registration means, a sender telephone number informed by said sender telephone number detecting/informing means as a number corresponding to said ID code in said registration means; and

 storing said sender telephone number in said registration means, replacing said number previously stored.

15 11. The data communication system according to claim 8, wherein said registration means in said host computer registers a plurality of sender telephone numbers corresponding to a single ID code.

20 12. The data communication system according to claim 11, wherein said determination means further determines that a request for line connection is from one of said terminals, for which said sender telephone number is already registered, if it is determined that a sender telephone number informed by said sender number detecting/informing means is coincident with any of said sender telephone numbers corresponding to said ID codes registered by said registration means.

25 13. The data communication system according to claim 8, wherein said host computer further includes means for storing an updated record on said sender telephone numbers informed by said sender telephone number detecting/informing means and said ID codes acquired from said plurality of terminals.

14. A method for implementing data communication by means of a data

communication system including at least a plurality of terminals connected to a telephone line including a switched telephone network for use in a caller number identification and display service, a sender number detecting/informing means for connecting with said switched telephone network, and for detecting and subsequently informing a sender telephone number informed by said telephone line, and a host computer for receiving said sender telephone number and connecting with said switched telephone network, and subsequently initiating a data communication with said plurality of terminals, said plurality of terminals each having own ID codes, comprising the steps of:

registering said ID codes and sender telephone numbers corresponding to said ID

10 codes;

comparing said sender telephone number informed by said sender number detecting/informing means with said sender telephone numbers registered by said registration means, and for subsequently determining whether said sender telephone number is coincident with any of said registered sender telephone numbers registered; and

controlling data communication process steps through said sender telephone number detecting/informing means based on a result obtained by a comparison with said determination means.

15. The method according to claim 14, further comprising the steps of:

affixing additional numbers to said sender telephone number to thereby form an instruction number that is utilized to instruct and make effective said sender telephone number; and

sending a thus prepared number to said telephone line.

16. The method according to claim 15, further comprising the step of:

25 performing selective switching operations according to a determination whether said instruction number is affixed to said sender telephone number.

17. The method according to claim 14, further comprising the steps of:

implementing, if it is determined by said determination means that a sender telephone number informed by said sender number detecting/informing means is non-coincident with any of said sender telephone numbers registered by said registration means, at least one of

displaying a message on a process input display unit;

printing out said message on a sheet of paper with a printer;

sending said message to an external system; and

storing said storage in storage means,

5 said message indicating that said sender telephone number informed by said sender

number detecting/informing means is found non-coincident with any of said sender telephone
numbers registered by said registration means.

18. The method according to claim 14, further comprising the step of:

instructing said communication control means to attain a line connection through said

10 sender telephone number detecting/informing means, and subsequently initiating data

communication with said plurality of terminals, if it is found by said determination means

that a sender telephone number informed by said sender number detecting/informing means is

coincident with one of said sender telephone numbers registered by said registration means;

and

rejecting said line connection by said sender telephone detecting/informing means, if

it is determined by said determination means that a sender telephone number informed by

said sender number detecting/informing means is non-coincident with any of said sender

telephone phone numbers registered by said registration means.

19. The method according to claim 14, wherein said step of registering is carried out

20 for said plurality of sender telephone numbers corresponding to a single ID code.

20. The method according to claim 14, wherein said step of determining determines

that a request for line connection is from one of said terminals, for which said sender

telephone number is already registered, if it is determined that a sender telephone number

informed by said sender number detecting/informing means is coincident with any of said

25 sender telephone numbers corresponding to said ID codes registered by said registration

means.

21. The method according to claim 14, further comprising the steps of:

transmitting said own ID codes prior to data communication for said plurality of

terminals,

wherein said host computer includes means for instructing said communication control means, regardless of a result of a determination by said determination means, attaining a line connection, and initiating subsequently a data communication with a terminal from which a request for said data communication is made,

5 instructing said communication means, if it is determined by said determination means that said sender telephone number informed by said sender number detecting/informing means is non-coincident with any of said sender telephone numbers registered by said registration means,

10 acquiring an ID code transferred from said terminals, and subsequently determining whether said ID code is coincident with any of said ID codes stored;

retaining said line connection, if it is found said ID code is coincident with one of said ID codes stored; and

discontinuing said line connection, if it is found said ID code is in non-coincident with any of said ID codes stored.

22. The method according to claim 21, further comprising the step of:

implementing, if it is determined by said determination means that said ID code informed by said sender telephone number detecting/informing means is non-coincident with any of said ID codes registered by said registration means, at least one of

20 displaying a message on a process input display unit;

printing out said message on a sheet of paper with a printer;

sending said message to an external system; and

storing said message in storage means,

25 said message indicating that an ID code informed by said sender telephone number detecting/informing means is found non-coincident with any of said ID codes registered by said registration means.

23. The method according to claim 21, further comprising the step of:

implementing, if an ID code currently notified by said sender telephone number detecting/informing means is determined to be coincident with one of said ID codes previously registered in said registration means, at least one of

storing newly a sender telephone number informed by said sender telephone number detecting/informing means as a number corresponding to said ID code in said registration means; and

5 storing said sender telephone number in said registration means, replacing said number previously stored.

24. The method according to claim 21, wherein said step of registering for said registering means is carried out for said plurality of sender telephone numbers corresponding to a single ID code.

10 25. The method according to claim 24, wherein said step of determining determines that a request for line connection is from one of said terminals, for which said sender telephone number is already registered, if it is determined that a sender telephone number informed by said sender number detecting/informing means is coincident with any of said sender telephone numbers corresponding to said ID codes registered by said registration means.

15 26. The method according to claim 21, further comprising the step of:

 storing an updated record on said sender telephone numbers informed by said sender telephone number detecting/informing means and said ID codes acquired from said plurality of terminals.